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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,444	01/14/2004	**Chi tse Wu**	H0002800US(4015)	7831

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EXAMINER	
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ART UNIT	**PAPER NUMBER**
1795	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/759,444	WU ET AL.	
	Examiner	Art Unit	
	Rodney G. McDonald	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *24-89* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24-89* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 77, 78 and 89 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 77, 78 and 89 are indefinite because it is unclear what the target looks like. The trademark name is insufficient to make clear the shape of the target.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 24-31 and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae (KR 2001-511244) in view of Gilman (U.S. Pat. 6,086,735) and Kulkarni et al. (U.S. Pat. 6,283,357).

Regarding claim 1, Bae teach a physical vapor deposition target comprising a shape, the shape includes at least one cup having a first end and a second end in opposing relation to the first end; the first end having an opening extending therein; the cup having a hollow therein; the hollow extending from the opening in the first end toward the second end; the cup having an interior surface defining a periphery of the

hollow; the shape including an exterior surface extending around an exterior of the cup and in opposing relation to the interior surface; the exterior surface comprising a region which wraps around at least a portion of the second end with a rounded corner; the rounded corner having a radius of curvature that is twice the radius of the target. (Se Figure; Abstract)

Regarding claim 25, Bae teach the interior surface does not comprise a rounded corner having a radius of curvature of at least about 1 inch. (See Figure)

Regarding claim 31, Bae teach the target can be aluminum. (See Abstract)

Regarding claim 40, the exterior surface wraps entirely around the second end. (See Figure)

The differences between Bae and the present claims is that the radius of curvature being at least 1 inch is not discussed (Claim 24), a sputtering surface defined along the interior surface of the cup is not discussed (Claim 24), the interior surface comprises a rounded corner having a radius of curvature of at least about 1 inch (Claim 26), the interior surface comprising a rounded corner having a radius of curvature of at least about 1 inch and wherein the rounded corner of the interior surface is within the rounded corner of the exterior surface is not discussed (Claim 27), the target consisting of high purity copper is not discussed (Claim 28), the target consisting essentially of Ta is not discussed (Claim 29), the target consisting essentially of titanium is not discussed (Claim 30), the radius of curvature being at least about 1.5 inches is not discussed (Claim 41), the radius of curvature being at least about 1.7 inches is not discussed

(Claim 42), and the radius of curvature being at least about 1.8 inches is not discussed (Claim 43).

Regarding the radius of curvature being at least 1 inch (Claim 24), Gilman et al. teach that the target diameter should vary between ten and fourteen inches. A ten inch diameter target may be used to sputter a six inch diameter wafer. A twelve inch target is used to sputter an inch wafer. (Column 4 lines 42-55) As discussed above the radius of curvature should be twice the radius of the target. Thus the radius of curvature should be ten inches since Gilman et al. suggest a target radius of five inches for sputtering a six inch wafer. (See Bae and Gilman et al. discussed above)

Regarding claims 41-43, Gilman et al. teach that the target diameter should vary between ten and fourteen inches. A ten inch diameter target may be used to sputter a six inch diameter wafer. A twelve inch target is used to sputter an inch wafer. (Column 4 lines 42-55) As discussed above the radius of curvature should be twice the radius of the target. Thus the radius of curvature should be ten inches since Gilman et al. suggest a target radius of five inches for sputtering a six inch wafer. (See Bae and Gilman et al. discussed above)

The motivation for utilizing the features of Gilman et al. is that it allows for forming films on wafers. (Column 4 lines 42-55)

Regarding a sputtering surface defined along the interior surface of the cup (Claim 24), Kulkarni et al. teach a sputter surface on the interior of a cup shaped target. (See Fig. 3; Column 5 lines 6-9)

Regarding claims 26, 27, Kulkarni et al. teach in Fig. 3 that the interior surface should comprise a rounded corner corresponding to the exterior corner curvature. (See Fig. 3) Since the radius of curvature can be at least one inch the interior corner corresponding to the radius of curvature as shown by Kulkarni et al. would have at least a 1 inch radius of curvature.

Regarding claim 28, Kulkarni et al. teach the target can be made of a high purity material such as copper. (Column 3 lines 35-52)

Regarding claim 29, Kulkarni et al. teach the target can be made of a high purity material such as Ta. (Column 3 lines 35-42)

Regarding claim 30, Kulkarni et al. teach the target can be made of a high purity such as Ti. (Column 3 lines 35-42)

The motivation for utilizing the features of Kulkarni et al. is that it allows for providing a target for depositing material on wafers. (Column 1 lines 10-22)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Bae by utilizing the features of Gilman et al. and Kulkarni et al. because it allows for depositing on wafers.

Claims 32-37, 39 and 44-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae in view of Gilman et al. and Kulkarni et al. as applied to claims24-31, 40-43 above, and further in view of Kardokus et al. (U.S. Pat. 6,113,761).

The differences not yet discussed is alloying copper (Claims 32, 33), the alloying element for copper being selected from the group consisting of Ag, Al, In, Zn, B, Ga, Mn, Sn, Ge, Ti and Zr (Claim 34), the element added to copper ranging from at least

about 100 ppm to less than about 10% by weight (Claim 35), the element added to copper ranging from at least about 1000 ppm to about 2% by weight (Claim 36), the target being CuSn with Sn being present from about 100 ppm to about 3 atomic percent (Claim 37), the target being CuAg with Ag being present from about 100 ppm to about 3 atomic percent (Claim 39) and the grain size of the target is not discussed (Claims 44-49).

Regarding claims 32, 33, Kardokus et al. teach a target of copper alloyed with at least one of Ag or Sn. (Column 1 lines 57-59, lines 63-67)

Regarding claim 34, Kardokus et al. teach the alloying element to be Ag or Sn. (Column 1 lines 64-67)

Regarding claims 35, 36, Kardokus et al. teach that typically alloying level is greater than 1000 ppm. (Column 5 lines 8-16)

Regarding claim 37, Kardokus et al. teach Sn present with CuSn. Alloying levels typically can be at least about 100 ppm. (Column 5 lines 8-16; Column 5 lines 20-24)

Regarding claim 39, Kardokus et al. teach Ag present with CuAg. Alloying levels typically can be at least about 100 ppm. (Column 5 lines 8-16; Column 5 lines 20-24)

Regarding claim 44-49, Kardokus et al. teach the grain size to be not more than 50 microns. (Column 8 lines 57-59)

The motivation for utilizing the features of Kardokus et al. is that it allows for forming interconnects on wafers. (Column 2 lines 43-45)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the features of Kardokus et al. because it allows for forming interconnects on wafers.

Claims 32-36 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae in view of Gilman et al. and Kulkarni et al. as applied to claims 24-31, 40-43 above, and further in view of Pavate et al. (U.S. Pat. 6,391,163).

The differences not yet discussed is alloying copper (Claims 32, 33), the alloying element for copper being selected from the group consisting of Ag, Al, In, Zn, B, Ga, Mn, Sn, Ge, Ti and Zr (Claim 34), the element added to copper ranging from at least about 100 ppm to less than about 10% by weight (Claim 35), the element added to copper ranging from at least about 1000 ppm to about 2% by weight (Claim 36) and the target being CuAl with Al being present from about 100 ppm to about 3 atomic percent (Claim 38).

Regarding claims 32-38, Pavate et al. teach a copper target alloyed with aluminum in the range of 0.01% to about 10%. (Column 3 lines 21-29)

The motivation for utilizing the features of Pavate et al. is that it allows for improving conductive film members. (See abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the features of Pavate et al. because it allows for improving conductive film members.

Claims 50-57 and 61-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae in view of Gilman et al. and Kulkarni et al. as applied to claims 24-31, 40-43 above, and further in view of Lai et al. (U.S. Pat. 6,179,973).

The differences not yet discussed is using the target in an apparatus. (Claims 50-57 and 61-63)

Regarding claims 50-57, 61-63, Lai et al. teach utilizing a hollow cup shaped target in a sputtering apparatus for depositing a layer. (See abstract; fig. 3A)

The motivation for utilizing the features of Lai et al. is that it allows for depositing on wafers with good step coverage. (See abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the features of Lai et al. because it allows for depositing on wafers with good step coverage.

Claims 58, 60, 64-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae in view of Gilman et al. and Kulkarni et al. and further in view of Lai et al. as applied to claims 24-31, 40-43, 50-57 and 61-63 above, and further in view of Kardokus et al. (U.S. Pat. 6,113,761).

The differences not yet discussed is the target being CuSn with Sn being present from about 100 ppm to about 3 atomic percent (Claim 58), the target being CuAg with Ag being present from about 100 ppm to about 3 atomic percent (Claim 60) and the grain size of the target is not discussed (Claims 64-66).

Regarding claim 58, Kardokus et al. teach Sn present with CuSn. Alloying levels typically can be at least about 100 ppm. (Column 5 lines 8-16; Column 5 lines 20-24)

Regarding claim 60, Kardokus et al. teach Ag present with CuAg. Alloying levels typically can be at least about 100 ppm. (Column 5 lines 8-16; Column 5 lines 20-24)

Regarding claim 64-66, Kardokus et al. teach the grain size to be not more than 50 microns. (Column 8 lines 57-59)

The motivation for utilizing the features of Kardokus et al. is that it allows for forming interconnects on wafers. (Column 2 lines 43-45)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the features of Kardokus et al. because it allows for forming interconnects on wafers.

Claims 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae in view of Gilman et al. and Kulkarni et al. and further in view of Lai et al. as applied to claims 24-31, 40-43, 50-57 and 61-63 above, and further in view of Pavate et al. (U.S. Pat. 6,391,163).

The difference not yet discussed is the target being CuAl with Al being present from about 100 ppm to about 3 atomic percent (Claim 38).

Regarding claim 38, Pavate et al. teach a copper target alloyed with aluminum in the range of 0.01% to about 10%. (Column 3 lines 21-29)

The motivation for utilizing the features of Pavate et al. is that it allows for improving conductive film members. (See abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the features of Pavate et al. because it allows for improving conductive film members.

Claims 67, 68, 70 and 72-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni et al. (U.S. Pat. 6,283,357) in view of Kardokus et al. (U.S. Pat. 6,113,761).

Regarding claim 67, Kulkarni et al. teach a three dimensional physical vapor deposition target comprising a material comprising one or more of Cu, Ni, Co, Ta, Al and Ti. The microstructure of the target should comprise fine, uniform grains. The shape includes at least one cup having a first end and a second end in opposing relation to the first end. The first end having an opening extending therein. The cup having a hollow therein. The hollow extending form the opening in the first end toward the second end. the cup having an interior surface defining a periphery of the hollow. A sputtering surface defined along the interior of the cup. (See Fig. 3; Column 3 lines 24-51; Column 5 lines 15-20)

Regarding claim 68, Kulkarni et al. teach the target can consist essentially of copper. (Column 3 lines 24-51)

The differences between Kulkarni et al. and the present claims is that the average grain size of less than or equal to 250 microns is not discussed (claim 67), the target being CuSn with Sn being present from about 100 ppm to about 3 atomic percent (Claim 70), the target being CuAg with Ag being present from about 100 ppm to about 3 atomic percent (Claim 72) and the grain size of the target is not discussed (Claims 73-76).

Regarding claim 67, 73-76, Kardokus et al. teach the grain size to be not more than 50 microns. (Column 8 lines 57-59)

Regarding claim 70, Kardokus et al. teach Sn present with CuSn. Alloying levels typically can be at least about 100 ppm. (Column 5 lines 8-16; Column 5 lines 20-24)

Regarding claim 72, Kardokus et al. teach Ag present with CuAg. Alloying levels typically can be at least about 100 ppm. (Column 5 lines 8-16; Column 5 lines 20-24)

The motivation for utilizing the features of Kardokus et al. is that it allows for forming interconnects on wafers. (Column 2 lines 43-45)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kulkarni et al. by utilizing the features of Kardokus et al. because it allows for forming interconnects on wafers.

Claims 78, 79, 80, 82, 84, and 85-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni et al. in view of Kardokus et al. as applied to claims 67, 68, 70 and 72-76 above, and further in view of Lai et al. (U.S. Pat. 6,179,973).

The differences not yet discussed is using the target in an apparatus. (Claims 79, 80, 82, 84, 85-88)

Regarding claims 78, 79, 80, 82, 84 and 85-88, Lai et al. teach utilizing a hollow cup shaped target in a sputtering apparatus for depositing a layer. (See abstract; fig. 3A)

The motivation for utilizing the features of Lai et al. is that it allows for depositing on wafers with good step coverage. (See abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the features of Lai et al. because it allows for depositing on wafers with good step coverage.

Claims 77, 79, 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni et al. in view of Kardokus et al. as applied to claim 67 above, and further in view of Fu et al. (U.S. Pat. 6,251,242).

The differences not yet discussed is using the target in an apparatus. (Claims 77, 79 and 89)

Regarding claims 77, 79 and 89, Fu et al. teach utilizing a hollow cup shaped target in a sputtering apparatus for depositing a layer. (See abstract; fig.1)

The motivation for utilizing the features of Fu et al. is that it allows for depositing in wafer holes. (See abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the features of Fu et al. because it allows for depositing on wafer holes.

Claims 67, 69, 73-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni et al. (U.S. Pat. 6,283,357) in view of Michaluk (WO 00/31310).

Regarding claim 67, Kulkarni et al. teach a three dimensional physical vapor deposition target comprising a material comprising one or more of Cu, Ni, Co, Ta, Al and Ti. The microstructure of the target should comprise fine, uniform grains. The shape includes at least one cup having a first end and a second end in opposing relation to the first end. The first end having an opening extending therein. The cup having a hollow therein. The hollow extending form the opening in the first end toward the second end. the cup having an interior surface defining a periphery of the hollow. A

sputtering surface defined along the interior of the cup. (See Fig. 3; Column 3 lines 24-51; Column 5 lines 15-20)

The differences between Kulkarni et al. and the present claims is that the average grain size of less than or equal to 250 microns is not discussed (claim 67), the target being made of tantalum with specific grain size is not discussed (claim 69) and the grain size of the target is not discussed (Claims 73-76).

Regarding claim 67, 69, 73-76, Michaluk et al. teach the grain size to be not more than 50 microns. (See Abstract)

The motivation for utilizing the features of Michaluk et al. is that it allows for forming uniform films. (See Page 1 lines 27-28

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kulkarni et al. by utilizing the features of Michaluk et al. because it allows for forming uniform films.

Claims 78, 79, 81, and 85-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni et al. in view of Michaluk et al. as applied to claims 67, 69, 73-76 above, and further in view of Lai et al. (U.S. Pat. 6,179,973).

The differences not yet discussed is using the target in an apparatus. (Claims 67, 69, 73-76)

Regarding claims 78, 79, 81, 85-88, Lai et al. teach utilizing a hollow cup shaped target in a sputtering apparatus for depositing a layer. (See abstract; fig. 3A)

The motivation for utilizing the features of Lai et al. is that it allows for depositing on wafers with good step coverage. (See abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the features of Lai et al. because it allows for depositing on wafers with good step coverage.

Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable Kulkarni et al. in view of Kardokus et al. as applied to claims 67, 68, 70 and 72-76 above, and further in view of Pavate et al. (U.S. Pat. 6,391,163).

The differences not yet discussed is utilizing aluminum in the copper target. (claim 71)

Regarding claim 71, Pavate et al. teach utilizing aluminum ion a copper target. (Column 3 lines 20-29)

The motivation for utilizing the features of Pavate et al. is that it allows for increasing the hardness of the target. (Column 3 lines 20-29)

Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have utilized the features of Pavate et al. because it allows for increasing the hardness of the target.

Claim 83 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni et al. in view of Kardokus et al. and further in view of Pavate et al. as applied to claims 67, 68, 70, 71-76 above, and further in view of Lai et al. (U.S. Pat. 6,179,973).

The differences not yet discussed is using the target in an apparatus. (Claims 67, 69, 73-76)

Regarding claims 78, 79, 81, 85-88, Lai et al. teach utilizing a hollow cup shaped target in a sputtering apparatus for depositing a layer. (See abstract; fig. 3A)

The motivation for utilizing the features of Lai et al. is that it allows for depositing on wafers with good step coverage. (See abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the features of Lai et al. because it allows for depositing on wafers with good step coverage.

Response to Arguments

Applicant's arguments filed June 23, 2008 have been fully considered but they are not persuasive.

In response to the argument the one of ordinary skill in the art would not look to Bae because Bae does not teach a sputtering target that is in the shape of a cup where the sputtering surface is interior of the cup and the rounded corner is on the exterior of the target, it is argued that looking at Bae one of ordinary skill in the art would see a cup with a rounded corner. Kulkarni suggest that the interior of a cup can be sputtered. Therefore, one of ordinary skill in the art would modify Bae by sputtering the inner surface of the cup as suggested by Kulkarni. Bae further teach the required dimension of the rounded corner as required by Applicant's claims. (See Bae and Kulkarni discussed above)

In response to the argument that hindsight is being utilizing to combine the features of Gilman with Bae, it is argued that Gilman simply suggest dimensions of a target sufficient for wafer coating. Therefore one of ordinary skill in the art would look to Gilman's target size to apply to Bae because a wafer is desired to be deposited upon. (See Gilman and Bae discussed above)

In response to the argument that one of ordinary skill would not combine Kulkarni with Bae because Kulkarni covers targets that are produced by cladding and not from ingots and cast ingots, it is argued that Applicant's claims do not require targets produced from cast ingots and therefore one of ordinary skill in the art would consider the features of Kulkarni. (See Kulkarni discussed above)

In response to the argument that one of ordinary skill in the art would not look to Kulkarni as the primary reference because Kulkarni cover targets that are produced by cladding and not from ingots and cast ingots, it is argued as discussed above that Applicant's claims do not require targets produced from cast ingots and therefore one of ordinary skill in the art would consider the features of Kulkarni. (See Kulkarni discussed above)

Applicant requests a second Office Action Non-Final to clarify the rejection. The Examiner has clarified the rejection and this action will be made Non-Final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M-Th with every Friday off..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rodney G. McDonald/
Primary Examiner, Art Unit 1795

Rodney G. McDonald
Primary Examiner
Art Unit 1795

RM
September 23, 2008